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Residential Density Calculation Worksheet

For alternate formats, call 206-296-6600.

This worksheet will assist you in correctly applying specific portions of the zoning code related to allowable density and will be used to determine if a proposal meets the density provisions of the King County Zoning Code (Title 21A).

NOTE: Use this worksheet **ONLY** if your proposal is for a residential development on an existing legal lot or for a residential development associated with a residential condominium binding site plan. A separate density worksheet is available for residential subdivision proposals. This worksheet is prepared to assist applicants, and does not replace compliance with adopted local, state and federal laws.

A pre-application conference is required for all Type 1 development proposals if the property will have 5,000 square feet of development site or right-of-way improvements, the property is in a critical drainage basin, or the property has a wetland, steep slope, landslide hazard, erosion hazard, or coal mine on site. A pre-application conference is required for all Type 2, 3 or 4 development proposals. Exempt from the requirement for a pre-application conference are 1.) single family residences and their accessory buildings; and 2.) other structures where all work is in an existing building and no parking is required or added. You may call 206-296-6600 to find out if a pre-application conference is needed for your proposal and how a pre-application conference can be arranged.

DATE: _____

NAME OF DEVELOPMENT: _____ FILE NO. _____

COMPREHENSIVE PLAN LAND USE DESIGNATION: _____

ZONING DESIGNATION(S): _____ _____ _____

COMMUNITY OR SUBAREA PLAN: _____

If more than one zone designation exists on the property, the architectural site plan must show the boundary between the zones and the area within each. In such cases, the transferring of density across zones on the lot may be permitted subject to the provisions of KCC 21A.12.200.

Please complete only the applicable portions of the form.

I. Site Area (KCC 21A.06.1172):

Site area (in square feet) is the gross horizontal area of the project site, less submerged lands as defined by KCC 21A.06.1265, less areas which are required to be dedicated on the perimeter of a project site for public rights-of-way.

_____ square feet in submerged land (any land below the ordinary high water mark - see KCC 21A.06.1265 and 21A.06.825.)

+ _____ square feet in perimeter rights-of-way which will be required to be dedicated (area 30 feet from center line of road)

= _____ **Total**

Calculation:

_____ gross horizontal area of the project site

- _____ Total submerged lands and rights-of-way

_____ Site area in square feet NOTE: To continue calculations, convert site area in square feet to acres by dividing by 43,560

_____ Site area in acres

II. Base Density (KCC 21A.12.030 - .040 tables):

The base density is determined by the zone designation(s) for the lot.

_____ du/acre

III. Allowable Dwelling Units, Floor Area and Rounding (KCC 21A.12.070):

The base number of dwelling units is calculated by multiplying the site area by the base density in dwelling units per acre (from KCC 21A.12.030 - .040 tables).

_____ site area in acres (see Section I) **X** _____ base density (see Section II)
= _____ allowable dwelling units

The allowed floor area, which excludes structured or underground parking areas and areas housing mechanical equipment, is calculated by multiplying the site area by the floor to lot area ratio (from KCC 21A.12.040).

_____ site area in square feet (see Section I) **X** _____ floor to lot area ratio (KCC 21A.12.040)
= _____ allowed floor area in square feet

When calculations result in a fraction, the fraction is rounded to the nearest whole number as follows:

1. Fractions of .50 or above shall be rounded up; and
2. Fractions below .50 shall be rounded down.

IV. Required On-site Recreation Space (KCC 21A.14.180):

A proposal is required to provide recreation space when more than four dwelling units are proposed in any residential development in the UR and R zones, stand-alone townhouses in the NB zone on property designated Commercial Outside of Center in the urban area, or within any mixed use development of more than 4 units. When recreation space is required, the total recreation space area must be computed by multiplying the recreation space requirement per unit type by the proposed number of such dwelling units (KCC 21A.14.180). NOTE: King County has the discretion to accept a fee in lieu of all or a portion of the required recreation space per KCC 21A.14.185.

Apartments and townhouses developed at a density <u>greater than</u> eight units per acre, and mixed use must provide recreational space as follows:

90 square feet	**X**	_____	proposed number of studio and one bedroom units		_____
170 square feet	**X**	_____	proposed number of two or more bedroom units	**+**	_____
			Recreation space requirement	**=**	_____

Townhouses and single family detached proposals developed at a density <u>less than</u> eight units per acre must provide recreational space as follows:

390 square feet **X** _____ proposed number of units **=** _____

Mobile home parks shall provide recreational space as follows:

260 square feet **X** _____ proposed number of units **=** _____

V. Net Buildable Area (KCC 21A.06.797):

The net buildable area is the site area (see Section I) less the following areas:

_____ areas <u>within</u> a project site which are required to be dedicated for public rights-of-way in excess of sixty feet (60') of width
+ _____ critical areas and their buffers, to the extent they are required by King County to remain undeveloped
+ _____ areas required for above ground stormwater control facilities including, but not limited to, retention/detention ponds, biofiltration swales and setbacks from such ponds and swales
+ _____ areas required by King County to be dedicated or reserved as on-site recreation areas (see Section IV)
+ _____ regional utility corridors, and
+ _____ other areas, excluding setbacks, required by King County to remain undeveloped
= _____ **Total reductions**

Calculation:

_____ site area in square feet (see Section I)
- _____ Total reductions
= _____ net buildable area in square feet NOTE: convert site area in square feet to acres by dividing by 43,560
= _____ net buildable area in acres

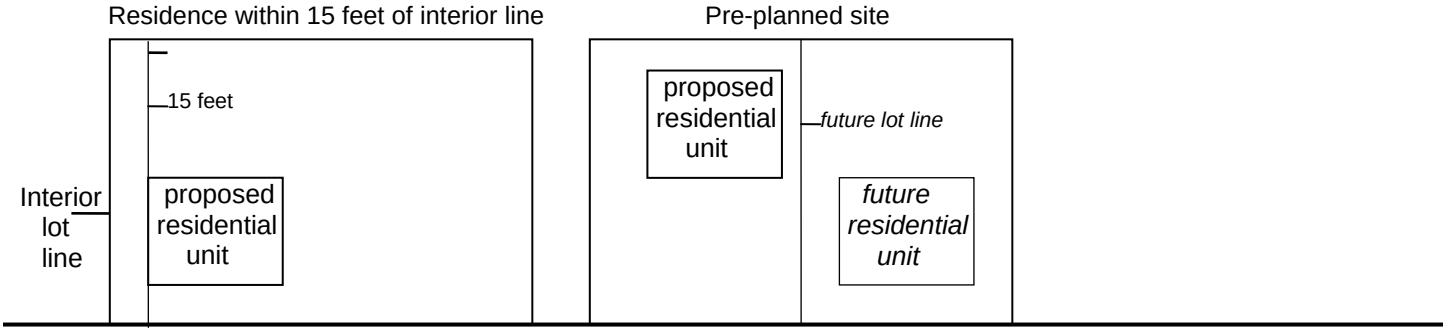
VI. Minimum Urban Residential Density (KCC 21A.12.060):

The minimum density requirement applies only to the R-4 through R-48 zones. Minimum density is determined by multiplying the base density in dwelling units per acre (from KCC 21A.12.030 table) by the net buildable area of the site in acres and then multiplying the resulting product by the minimum density percentage from the KCC 21A.12.030 table. The minimum density requirements may be phased or waived by King County in certain cases. See KCC 21A.12.060(A-B).

Calculation:

_____ base density in du/ac (see Section II) **X** _____ net buildable area in acres (see Section V)
= _____ **X** minimum density % set forth in KCC 21A.12.030 or as adjusted in Section VII.
= _____ minimum dwelling units required.

A proposal to locate a single residential unit on a lot is exempt from the minimum density requirements if the residential unit is located within 15 feet of one or more interior lot lines or the site is pre-planned to demonstrate that the proposed residential unit is compatible with future division of the site to meet the minimum density requirements.



VII. Minimum Density Adjustments For Moderate Slopes (KCC 21A.12.062):

Residential developments in the R-4, R-6 and R-8 zones may modify the minimum density factor in KCC 21A.12.030 based on the weighted average slope of the net buildable area of the site (see Section V). To determine the weighted average slope, a topographic survey is required to calculate the net buildable area(s) within each of the following slope increments and then multiplying the number of square feet in each slope increment by the median slope value of each slope increment as follows:

	_____	sq. ft	0 - 5% slope increment	**X**	2.5% median slope value	**=**	_____	
+	_____	sq. ft	5 - 10% slope increment	**X**	7.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	10 - 15% slope increment	**X**	12.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	15 - 20% slope increment	**X**	17.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	20 - 25% slope increment	**X**	22.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	25 - 30% slope increment	**X**	27.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	30 - 35% slope increment	**X**	32.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	35 - 40% slope increment	**X**	37.5% median slope value	**=**	_____	**+**
	_____		Total square feet in net buildable area				_____	Total square feet adjusted for slope

Calculation:

_____ total square feet adjusted for slope divided by _____ total square feet in net buildable area
= _____ weighted average slope of net buildable area
= _____% (Note: multiply by 100 to convert to percent - round up to nearest whole percent)

Use the table below to determine the minimum density factor. This density is substituted for the minimum density factor in KCC 21A.12.030 table when calculating the minimum density as shown in Section VI of this worksheet.

Weighted Average Slope of Net Buildable Area(s) of Site:	Minimum Density Factor:
0% - less than 5%	85%
5% - less than 15%	83%, less 1.5% for each 1% of average slope in excess of 5%
15% - less than 40%	66%, less 2.0% for each 1% of average slope in excess of 15%

EXAMPLE CALCULATION FOR MINIMUM DENSITY ADJUSTMENTS FOR MODERATE SLOPES:

	_____	sq. ft	0 - 5% slope increment	**X**	2.5% median slope value	**=**	_____	
+	10,000	sq. ft	5 - 10% slope increment	**X**	7.5% median slope value	**=**	750	**+**
+	20,000	sq. ft	10 - 15% slope increment	**X**	12.5% median slope value	**=**	2,500	**+**
+	_____	sq. ft	15 - 20% slope increment	**X**	17.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	20 - 25% slope increment	**X**	22.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	25 - 30% slope increment	**X**	27.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	30 - 35% slope increment	**X**	32.5% median slope value	**=**	_____	**+**
+	_____	sq. ft	35 - 40% slope increment	**X**	37.5% median slope value	**=**	_____	**+**
	30,000	Total square feet in net buildable area					**3,250**	Total square feet adjusted for slope

3,250 total square feet adjusted for slope divided by 30,000 total square feet in net buildable area

= .108333 weighted average slope of net buildable area

= 11 % (Note: multiply by 100 to convert to percent - round up to nearest whole percent)

Using the table above, an 11% weighted average slope of net buildable area falls within the 5% - less than 15% range which has a minimum density factor of 83%, less 1.5% for each 1% of average slope in excess of 5%. Since 11% is 6% above 5%, multiply 6 times 1.5 which would equal 9%. Subtract 9% from 83% for an adjusted minimum density factor of 74%. This replaces the minimum density factor in KCC 21A.12.030 table.

VIII. Maximum Dwelling Units Allowed (KCC 21A.12.030 - .040):

This section should be completed only if the proposal includes application of residential density incentives (KCC 21A.34) or transfer of density credit (KCC 21A.36). Maximum density is calculated by adding the bonus or transfer units authorized to the base units calculated in Section III of this worksheet. The maximum density permitted through residential density incentives is 150 percent of the base density (see Section II) of the underlying zoning of the development or 200 percent of the base density for proposals with 100 percent affordable units. The maximum density permitted through transfer of density credit is 150 percent of the base density (see Section II) of the underlying zoning of the development.

_____ base density in dwelling units per acre (see Section II) **X** 150% **=** _____ maximum density

_____ maximum density in dwelling units per acre **X** _____ site area in acres **=** _____

maximum dwelling units allowed utilizing density incentives (KCC 21A.34)

_____ base density in dwelling units per acre (see Section II) **X** 200% **=** _____ maximum density

_____ maximum density in dwelling units per acre **X** _____ site area in acres **=** _____

maximum dwelling units allowed utilizing density incentives with 100 percent affordable units(KCC 21A.34)

_____ base density in dwelling units per acre (see Section II) **X** 150% **=** _____ maximum density

_____ maximum density in dwelling units per acre **X** _____ site area in acres **=** _____

maximum dwelling units allowed utilizing density transfers (KCC 21A.36)

Calculation:

	_____	base allowable dwelling units calculated in Section III
+	_____	bonus units authorized by KCC 21A.34
+	_____	transfer units authorized by KCC 21A.36
	_____	total dwelling units (cannot exceed maximums calculated above)

Check out the Permitting Web site at www.kingcounty.gov/permits